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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,022	11/21/2006	Roland Edelmann	283357US0PCT	1934
22850	7590	10/01/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
COLLINS, ALVIN				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

**Application No.**

10/563,022

**Applicant(s)**

EDELMANN ET AL.

**Examiner**

Alvin C. Collins III

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 20-24 is/are rejected.
- 7) ☐ Claim(s) 10-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Specification***

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

***Claim Objections***

2. Claim 13 is objected to because of the following informalities:  
"organ oalkoxysiloxane" on page 5, line 3 is deemed a typographical error. It should read "organoalkoxysilane." Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 21-25 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

4. Claims 21-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21-23 provide for the use of the formulation as claimed in claim 1, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chapman et al. US 2003/0181566 A1 (hereinafter "Chapman").

Regarding claim 1, Chapman teaches in example XIII a formulation comprising 3-aminopropyltriethoxysilane ((i) **at least one organoalkoxysilane**), finely divided, porous silica Syloid 244 ((ii) **at least one inorganic oxidic powder**), and hydrochloric acid solution ((iii) **an organic or inorganic acid**). See see paragraph [0197].

Regarding the viscosity requirement, Chapman teaches the dispersion viscosity is determined by the solids content and pore size of the inorganic oxide particles (see paragraph [0042]). Since the pore size and solids content of the reference example is substantially the same, the formulation would inherently possess the substantially the same viscosity. Further, the skilled artisan would determine the pore size and solids content that would give a formulation with a viscosity that would meet the mixing requirements for the desired application.

Regarding claim 2, Chapman teaches the formulation with the optional additive of a surfactant or a dispersant (see paragraph [0093]). The instant specification describes a wetting assistant as "conventional surface-active substances" of which surfactants belong (see specification, page -3-, lines 15-20). This reads on the formulation as claimed comprising a wetting assistant.

Regarding claim 3, Chapman teaches the formulation as claimed comprising 3 ml of deionized water to the composition (see paragraph [0197]), which reads on the **diluent or solvent as further component (v)**.

Regarding claim 4, Chapman teaches the formulation as claimed comprising 3-aminopropyltriethoxysilane. This compound reads on **general formula (I)**, where **R** is an aminopropyl group (**substituted alkyl group having 1 to 18 carbon atoms**), **R'** is

an ethyl group (**linear alkyl group having 1-6 carbon atoms**) and **a** is **1** (see paragraph [0197]).

Regarding claim 5, Chapman teaches the formulation as claimed comprising 3-aminopropyltriethoxysilane. This compound reads on **general formula (II)**, where **R<sup>2</sup>** is ethoxy group (**an alkoxy group**), **x=0**, and **y=0** (see Example XIII, paragraph [0197]).

Regarding claims 6 and 7, Chapman teaches the formulation as claimed comprising **a nanoscale powder (ii) of silicone oxides** (porous Syloid 244 silica gel dispersion) having an **average particle size (d50)** of 0.47 (less than 1200 nm). This reads on the formulation as claimed (see Example XIII, paragraph [0197]).

Regarding claim 8, the formulation comprises aminopropyltriethoxysilane **(i)** and Syloid 244 **((ii) at least one inorganic oxidic powder)**. During the process of preparing the dispersion, when the silane solution is added to the silica gel slurry, a reaction product forms (see paragraph [0197]). This reads on claim 8.

Regarding claim 9, the solids content of the dispersion in Example XIII is 20%, which reads on the formulation as claimed with a solids content of up to 90% by weight (see paragraph [0197]).

#### ***Allowable Subject Matter***

6. Claims 10-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The present claims are allowable for at least the following reason(s) over the closest references: Chapman (US 6,780,920 B2) and Edlemann (US 2002/0098243 A1).

Chapman teaches the method of making the formulation of claim 1 using silica gel dispersions with a particular solids content. These dispersions have varying amounts of water, which does not lend to controlled hydrolysis of the silane. Edlemann teaches the process of preparing a polymerizable organosilicon nanocapsule using pyrogenic silica, vinyltrimethoxysilane, a catalysts, wetting agent, and defined amounts of water (see paragraphs [0159] to [0161]). This allows for controlled hydrolysis of the organoalkoxysilane with the silica, however the formulation and method of mixing do not read on the process as claimed.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,395,858, US 4,707,526, .

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin C. Collins III whose telephone number is (571) 270-7734. The examiner can normally be reached on Monday through Thursday, 7:30 am - 5:00 pm EST and on alternate Fridays from 7:30 am - 4:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AC/

/Benjamin L. Utech/  
Primary Examiner